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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,768	11/30/1999	OSAMU KUBONIWA	MA-385-US	8157

21254 7590 01/23/2004

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EXAMINER	
SWICKHAMER, CHRISTOPHER M	
ART UNIT	**PAPER NUMBER**
2662	12

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/450,768	KUBONIWA, OSAMU	
	Examiner	Art Unit	
	Christopher M Swickhamer	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed 08/29/03. Claims 1-20 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- Referring to claim 1, lines 24-26, the claim states that the station side converts "each digital audio signal as well as each high-speed digital data into ATM cells." This does not agree with the specification. On page 14, lns. 24-pg. 15, lns. 16, the instant application discloses that the digital data '39' and '49' are already ATM cells. Therefore the line concentrator in the station side apparatus does not convert the digital data into ATM cells. The digital data is already in ATM cells. Reference numerals '38' and '48,' which are transmitted across the analog telephone network, are also described as being ATM cell strings. It appears that the only time the analog voice and digital data are converted into ATM cells is at the subscriber side. The

rest of the network is described as transmitting ATM cells without converting the cells into any other data format. Thus, the Examiner will interpret the claim to mean that the signal from the analog telephone device is converted to ATM cells and combined with the ATM cells from the digital data apparatus. Claims 3, 4, 7, 9 and 10 have a similar deficiency.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7-12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Referring to claim 7, in line 9, the claim states, "to supply the same to the analog communications equipment." From the context of the claim, it cannot be discerned to what "the same" refers.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaplan et al (USP 6,141,339).

- Referring to claim 1, Kaplan discloses an asymmetrical digital subscriber line (ADSL) system for transferring an analog audio signal of an analog communication equipment and high speed digital data of a high speed digital data equipment provided on the side of a subscriber, from and to a station, through one subscriber line (Fig. 2), comprising: an apparatus on the subscriber side in which an analog audio signal of the analog communication equipment is converted into a digital audio signal (voice to ATM, col. 3, lns. 40-50), said subscriber side apparatus comprising a line concentrator to concentrate the digital audio signal together with the high-speed digital data by time division (Fig. 21, col. 3, lns. 40-50, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time), and supplied to the subscriber line after being modulated by a first ADSL modem (col. 5, lns. 3-35), while after a signal received from the station through the subscriber line is demodulated by the first ADSL modem, the digital audio signal is converted into an analog audio signal and supplied to the analog communication equipment, and at the same time high-speed digital data is supplied to the high-speed digital data equipment (col. 5, lns. 3-35); and an apparatus on the station side in which a signal received from said apparatus on the subscriber side through the subscriber line is demodulated by a second ADSL modem (MUX '220' inherently has an ADSL modem to receive the ADSL signal), thereafter at the service node the digital audio signal is converted into an analog audio signal, which is supplied to an analog telephone network (POTS), and at the same time high-speed digital data is supplied to a high-speed digital data network (ATM, Fig. 4), while an analog audio signal of the analog telephone network is converted into a digital audio signal,

said service node (station side) apparatus comprising an ATM switch (line concentrator) to concentrate the digital audio signal together with a high speed digital data of the high-speed digital data network by apparatus on the subscriber side and apparatus on the station side convert each digital audio signal as well as each high-speed digital data into asynchronous transfer mode (ATM) cells in each respective line concentrator and attach each destination address to the ATM cells (Fig. 4, col. 5, lns. 23-35, col. 6, lns. 34-50).

- Referring to claim 2, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog communication equipment into each digital audio signal and concentrates the digital audio signal together with the high-speed digital data by time division (Fig. 2, col. 5, lns. 3-35, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time).

- Referring to claim 3, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side and said apparatus on the station side convert each digital audio signal as well as each high-speed digital data into ATM cells, inherently attach each destination address to the ATM cells in the ATM switch (line concentrator), and concentrate the digital audio signal together with the high-speed digital data (Fig. 2 and 4).

- Referring to claim 4, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog communication equipment into each digital audio signal and concentrates the digital audio signal together with high-speed digital data by time division (Fig. 2, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time), and said apparatus on the subscriber side and apparatus on the station side convert each digital audio signal as well

as each high-speed digital data into ATM cells, attach each destination address to the ATM cells in the ATM voice mux (line concentrator), and concentrate the digital audio signal together with the high-speed digital data (Fig. 4).

- Referring to claim 5, Kaplan discloses an ADSL system asset forth in Claim l, wherein said apparatus on the subscriber side and apparatus on the station side divide each digital audio signal as well as high-speed digital data into fixed time slots and the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by the first ADSL modem (col. 2, lns. 65-col. 3, lns. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 6, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog communication equipment into each digital audio signal and concentrates the digital audio signal together with high-speed digital data by time division, and said apparatus on the subscriber side and apparatus on the station side divide each digital audio signal as well as high-speed digital data into fixed time slots and the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by the ADSL modem (Fig. 2, col. 2, lns. 65-col. 3, lns. 7). The system handles data at a certain rate, and the data is clocked at a transmission

rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 7, Kaplan discloses an asymmetrical digital subscriber line (ADSL) system for transferring an analog audio signal of an analog communication equipment and high speed digital data of a high speed digital data equipment provided in an apparatus on a subscriber side, from and to an apparatus on a station side, through one subscriber line (Fig. 2 and 4), comprising: said apparatus on the subscriber side comprises an analog-to-digital/ digital-to-analog (AD/DA, voice to ATM, col. 3, lns. 40-50) converter for converting an analog audio signal of the analog communication equipment into a digital audio signal or converting a digital audio signal into an analog audio signal (voice to ATM or ATM to voice, col. 3, lns. 40-50), to supply the same to the analog communication equipment, and supplying the high-speed digital data to the high-speed digital data equipment; an ATM backplane (line concentrator) for concentrating the digital audio signal and the high-speed digital data by time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time); and a first ADSL modem for modulating the digital audio signal and the high-speed digital data and supplying the modulated signal to the subscriber line (Fig. 2, col. 5, lns. 3-35), and demodulating a modulated signal received from the station side through the subscriber line; said apparatus on the station side comprises a second ADSL modem for demodulating the modulated

signal received from said apparatus on the subscriber side through the subscriber line and modulating a digital audio signal and high-speed digital data to be supplied to the subscriber line (the mux inherently has an ADSL modem to receive the signal from the residential ADSL modem); and a service node with an ATM switch (line concentrator) for supplying the digital audio signal modulated by said second ADSL modem to an analog telephone network (POTS) as well as supplying the high-speed digital data to the high-speed digital data network (ATM), and concentrating the digital audio signal from the analog telephone network and the high-speed digital data from the high-speed digital data network by time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time), then to send the digital audio signal together with the high-speed digital data to said first ADSL modem, wherein said apparatus on the subscriber side and said apparatus on the station side convert each digital audio signal and the high-speed digital data into asynchronous transfer mode (ATM) cells in each respective line concentrator and attach a destination address to the ATM cells (Fig. 1, 2 and 4, col. 6, lns. 33-50).

- Referring to claim 8, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converters corresponding to a plurality of analog communication equipment; and said line concentrator in said apparatus on the subscriber side concentrates each digital audio signal converted by the plurality of AD/DA converters, together with the high-speed digital data, by time division (Fig. 2, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time).

- Referring to claim 9, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side convert digital audio signals and high-speed digital data into ATM cells in the line concentrators, attach each destination address to the ATM cells and concentrate the digital audio signal together with the high-speed digital data (Fig. 3, col. 5, lns. 35-col. 6, lns. 33).

- Referring to claim 10, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converter corresponding to a plurality of analog communication equipment, and said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side convert digital audio signals (Fig. 3, '332') and high-speed digital data into ATM cells, attach each destination address to the ATM cells in the line concentrator, and concentrate the digital audio signal together with the high-speed digital data (Fig. 2 and 3, col. 5, lns. 35-col. 6, lns. 33).

- Referring to claim 11, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side divide each digital audio signal and high-speed digital data into fixed time slots, and the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by said ADSL modem (col. 2, lns. 65-col. 3, lns. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The

ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 12, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converter corresponding to a plurality of analog communication equipment, and said line concentrators in said apparatus on the subscriber side and in said apparatus on the station side divide each digital audio signal and high-speed digital data into fixed time slots, the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by said ADSL modem (col. 2, lns. 65-col. 3, lns. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 13, Kaplan discloses an ADSL system as set forth in Claim 1, wherein each said first and second line concentrator comprises an ATM cell converter, and wherein individual destination addresses are attached to each ATM cell (Fig. 2 and 4).

- Referring to claim 14, Kaplan discloses an ADSL system as set forth in Claim 7, wherein each said first and second line concentrator comprises an ATM cell converter, and wherein individual destination addresses are attached to each ATM cell (Fig. 2 and 4).

- Referring to claim 15, Kaplan discloses a method of transferring an analog audio signal over an asymmetrical digital subscriber line (ADSL) containing high-speed digital data (Fig. 1 and 2), comprising: providing an apparatus on a subscriber side of the network comprising an analog audio signal of an analog communication device and high-speed digital data of a high-speed digital data device (Fig. 2), comprising: converting the analog audio signal into a digital audio signal (voice to ATM, col. 3, lns. 40-50); converting each digital audio signal and each high-speed data into asynchronous transfer mode (ATM) cells in a residential hub (line concentrator); attaching each destination address to each ATM cell; concentrating said converted digital audio signals together with said converted high-speed digital data into an ATM cell string signal using time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time); modulating said ATM cell string with a first ADSL modem (fig. 2); and transmitting said modulated ATM cell string signal to the subscriber line; and receiving the ATM signal from said subscriber side into an apparatus on the station side (col. 5, lns. 3-35), comprising: demodulating said ATM signal with a second ADSL modem (the mux inherently has an ADSL modem to receive the ADSL signal from the residential ADSL modem); converting said concentrated digital audio signal into an analog audio signal; transmitting said analog audio signal to an analog telephone network (POTS); and transmitting said concentrated high-speed digital data to a high-speed digital network (ATM, Fig. 4).

- Referring to claim 16, Kaplan discloses the method of claim 15, further comprising: dividing each digital audio signal and each high-speed digital data into fixed time slots; and supplying said divided digital audio signals together with said high speed digital data to said subscriber line after modulation by said first ADSL modem (col. 2, lns. 65-col. 3, lns. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 17, Kaplan discloses the method of claim 15, further comprising: extracting a payload from said ATM cell string and converting said extracted digital audio signals into analog audio signals (ATM to voice, col. 3, lns. 40-50).

- Referring to claim 18, Kaplan discloses the method of claim 15, wherein said concentrating said converted digital audio signals together with said converted high-speed digital data using time division comprises multiplexing said signals and said data in a multiplexer. The system inherently multiplexes the ATM cells together (Fig. 2 and 3, col. 5, lns. 3-35). Multiplexing is combining two or more signals together.

- Referring to claim 19, Kaplan discloses the method of claim 15, wherein said concentrating said converted digital audio signals together with said converted high-speed digital

data comprises modulating said ATM cells received from said ATM backplane (line concentrator, Fig. 2 and 2, col. 5, lns. 3-35).

- Referring to claim 20, Kaplan discloses the method of claim 15, further comprising: transmitting an ATM cell string having an address attached for the analog telephone network by said second line concentrator to said analog telephone network; and transmitting an ATM cell string having an address attached for the high-speed digital network to a high speed digital telephone network (fig. 4).

Response to Arguments

8. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M Swickhamer whose telephone number is (703) 306.4820. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872.9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305.3900.

CMS
December 17, 2003

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
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